IBM Half High LTO Generation 5 SAS Tape Drive offers a reliable, economical, and versatile tape backup subsystem

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At a glance

The Half High LTO™ Generation 5 SAS Tape Drive brings performance and capacity in a 5.25-inch, half-high form factor to entry through enterprise System x® and BladeCenter® systems. Key features include:

- Up to 1.5 TB native capacity, and up to 3.0 TB in compressed mode[1]
- Up to 140 MB/s native back-up rate, and up to 280 MB/s in compressed mode
- SAS interface
- Support from leading operating systems and popular backup software
- Backward compatibility: Read and Write to LTO 4, Read only LTO 3

For ordering, contact your IBM® representative, an IBM Business Partner, or IBM Americas Call Centers at 800-IBM-CALL (Reference: YE001).

Overview

IBM Half High LTO Generation 5 SAS Tape Drive Options (49Y9898), (3628-L5X), and (3628-N5X)

The IBM Half-High LTO Generation 5 SAS Tape Drive is a high-performance, high-capacity data-storage device that is designed to backup and restore open-systems applications. The tape drive is available as an internal device or an external device. It is the fifth generation in the Ultrium™ series of products, and is available with a Serial Attached SCSI interface (SAS). This model incorporates the Linear Tape-Open™ (LTO) IBM Ultrium 5 Half-High Tape Drive.

The new IBM LTO Generation 5 SAS Tape Drive maintains the competitive total cost of ownership (TCO) of LTO tape storage. The SAS interface supports internal plug-and-play capability with select System x and BladeCenter systems, as well as external attachment in one of IBM's supported external tape drive enclosures.

Key messages:

- SAS interface allowing for direct internal connections with select System x and BladeCenter systems
- Tape drive 5.25-inch half-high form factor

Features and functions:

- Dual-port 6 Gbps Serial Attached Small Computer Systems interface (SAS)
- Native storage capacity of 1500 GB (1.5 TB) per cartridge (3000 GB at 2:1 compression)
- Maximum native data transfer rate of up to 140 MB per second
- Burst data transfer rate of up to 600 MB per second
- 256 MB read-and-write cache
- Support for encryption on Ultrium 5 tape cartridges
- Single-character display (SCD) operator panel

Service and support:

- One-year parts only[2] on tape drive options
- Three years parts on external options 3628L5X and 3628N5X

LTO 5 Media Cartridge (49Y9899)

The tape drive uses the IBM LTO Ultrium 1500 GB Data Cartridge and is compatible with the cartridges of its predecessor, the IBM Half-High LTO Ultrium 4 Tape Drive. The drive performs the following functions:

- Reads and writes generation 5 cartridges to generation 5 format
- Reads and writes generation 4 cartridges to generation 4 format
- Reads generation 3 cartridges

The drive reads tapes that have been written by other licensed Ultrium 5 drives. It also writes to tapes that can be read by other licensed Ultrium 5 drives.

Cleaning Cartridge Options

- DDS Gen 5 Cleaning Cartridge Option (49Y9892)
- LTO Cleaning Cartridge Option (49Y9893)
- DDS Gen 6 Cleaning Cartridge Option (49Y9894)

RDX Media Cartridge Options

- IBM RDX 750GB Cartridge (81Y3645)
- IBM RDX 1TB Cartridge (81Y3647)

[1] Actual playback speed varies and is often less than maximum. User capacity may vary depending on operating environments.

[2] For information on the IBM Statement of Limited Warranty, visit

http://www-947.ibm.com/support/entry/portal/wlup

Alternatively, this information is available through your IBM representative or reseller. Copies are available upon request. With respect to on-site service, IBM sends a technician after attempting to diagnose and resolve the problem remotely.

Feature exchange

None

Key prerequisites

A supported System x or BladeCenter server that supports SAS drives with an available PCI Express® expansion slot.

A dedicated SAS adapter with internal and external connectors.

Planned availability date

May 31, 2011:

- IBM Half High LTO Gen 5 SAS Tape (49Y9898)
- IBM External Half High LTO Gen 5 SAS Tape Drive (3628L5X)
- IBM External Half High LTO Gen 5 SAS Tape Drive (3628N5X)
- LTO GEN 5 Media 5 Pack (49Y9899)
- DDS Gen 5 Cleaning Cartridge Option (49Y9892)
- LTO Cleaning Cartridge Option (49Y9893)
- DDS Gen 6 Cleaning Cartridge Option (49Y9894)
- IBM RDX 750GB Cartridge (81Y3645)
- IBM RDX 1TB Cartridge (81Y3647)

Description

IBM Half-High LTO Gen 5 SAS Tape Drive

The IBM Half-High LTO Generation 5 SAS Tape Drive is a high-performance, high-capacity data-storage device that is designed to backup and restore open-systems applications. The tape drive is available as an internal device or an external device.

The drive has a dual-port 6 Gbps SAS (Serial Attached SCSI) host interface.

A drive with a SAS interface can be linked directly to controllers. SAS is a performance improvement over traditional SCSI because SAS enables multiple devices (up to 128) of different sizes and types to be connected simultaneously with thinner and longer cables; its full-duplex signal transmission supports 6.0 Gb/s SAS drives and can be hot-plugged.

Cleaning cartridges used to support the tape drives

- DDS Gen 5 Cleaning Cartridge Option (49Y9892)
- LTO Cleaning Cartridge Option (49Y9893)
- DDS Gen 6 Cleaning Cartridge Option (49Y9894)
- IBM RDX 750GB Cartridge (81Y3645)
- IBM RDX 1TB Cartridge (81Y3647)

Product positioning

None

Product number

Single Entity (SEOs)

Description	SEO number
IBM External HH LTO Gen 5 SAS Tape Drive	3628L5X

Option (SEOs)

Description	SEO number
IBM Half High LTO Generation 5 SAS Tape Drive	49Y9898
IBM LTO 5 Media 5 Pack	49Y9899
DDS Gen 5 Cleaning Cartridge Option	49Y9892
LTO Cleaning Cartridge Option	49Y9893
DDS Gen 6 Cleaning Cartridge Option	49Y9894
IBM RDX 750GB Cartridge	81Y3645
IBM RDX 1TB Cartridge	81Y3647

The following are newly announced features on the specified models of the IBM System x 3628 machine type.

Description	MT	Model	Feature
IBM Half High LTO External SAS Tape Drive	3628	HC1	
EMEA Long Leadtime Configurations	3628	HC1	1763
Hungary CHW plant 9SH	3628	HC1	1764
Guad CHW plant 9KQ	3628	HC1	1765
ISTC CHW 9K2	3628	HC1	1766
RTP CHW 9NR	3628	HC1	1767
Capacity Scheduling Service	3628	HC1	1772
Custom SLA Scheduling Service	3628	HC1	1796
Customer Solution Center Services	3628	HC1	7831
Consolidate Shipment	3628	HC1	8031
TAA Compliant Order	3628	HC1	8067
General Racking Solution	3628	HC1	8072
System x Cluster Upgrade	3628	HC1	A103
IBM Half High LTO Gen 4 External SAS Tape Drive	3628	HC1	A1XD
IBM Half High LTO Gen 3 External SAS Tape Drive	3628	HC1	A1XE
IBM Half High LTO Gen 5 External SAS Tape Drive	3628	HC1	A1XF

The following are features already announced for the 8765, 8767 machine types.

Description	MT	Model	Feature
1U Tape Enclosure	8765	HC1	
Half High Tape Enclosure	8767	HC1	
IBM Half High LTO Gen 5 Internal SAS Tape Drive	8765	HC1	
IBM Half High LTO Gen 5 Internal SAS Tape Drive	8767	HC1	
IBM LTO Universal Cleaning Cartridge	8765	HC1	
IBM LTO Universal Cleaning Cartridge	8767	HC1	
IBM DDS Generation 5 Cleaning Cartridge	8765	HC1	
IBM DDS Generation 5 Cleaning Cartridge	8767	HC1	
IBM DDS Generation 6 Cleaning Cartridge	8765	HC1	
IBM DDS Generation 6 Cleaning Cartridge	8767	HC1	
IBM LTO Gen 5 Data Cartridge	8765	HC1	5728
IBM LTO Gen 5 Data Cartridge	8767	HC1	

The following are features already announced for the 7327, 7328, 7378, 7379, 7380 machine types.

Description	MT	Model	Feature
IBM Half High LTO Gen 5 Internal SAS Tape Drive	7327	AC1	5345
		MC1	
IBM Half High LTO Gen 5 Internal SAS Tape Drive	7328	AC1	
		MC1	
IBM Half High LTO Gen 5 Internal SAS Tape Drive	7378	AC1	
		MC1	
IBM Half High LTO Gen 5 Internal SAS Tape Drive	7379	AC1	
		MC1	
IBM Half High LTO Gen 5 Internal SAS Tape Drive	7380	AC1	
		MC1	
IBM LTO Universal Cleaning Cartridge	7327	AC1	5347
		MC1	
IBM LTO Universal Cleaning Cartridge	7328	AC1	

		MC1	
IBM LTO Universal Cleaning Cartridge	7378	AC1	
		MC1	
IBM LTO Universal Cleaning Cartridge	7379	AC1	
		MC1	
IBM LTO Universal Cleaning Cartridge	7380	AC1	
		MC1	
IBM DDS Generation 5 Cleaning Cartridge	7327	AC1	5348
		MC1	
IBM DDS Generation 5 Cleaning Cartridge	7328	AC1	
		MC1	
IBM DDS Generation 5 Cleaning Cartridge	7378	AC1	
		MC1	
IBM DDS Generation 5 Cleaning Cartridge	7379	AC1	
		MC1	
IBM DDS Generation 5 Cleaning Cartridge	7380	AC1	
		MC1	
IBM DDS Generation 6 Cleaning Cartridge	7327	AC1	5349
		MC1	
IBM DDS Generation 6 Cleaning Cartridge	7328	AC1	
		MC1	
IBM DDS Generation 6 Cleaning Cartridge	7378	AC1	
		MC1	
IBM DDS Generation 6 Cleaning Cartridge	7379	AC1	
		MC1	
IBM DDS Generation 6 Cleaning Cartridge	7380	AC1	
		MC1	
IBM LTO Gen 5 Data Cartridge	7327	AC1	5728
		MC1	
IBM LTO Gen 5 Data Cartridge	7328	AC1	
		MC1	
IBM LTO Gen 5 Data Cartridge	7378	AC1	
		MC1	
IBM LTO Gen 5 Data Cartridge	7379	AC1	
		MC1	
IBM LTO Gen 5 Data Cartridge	7380	AC1	
		MC1	

Business Partner information

If you are a Direct Reseller - System Reseller acquiring products from IBM, you may link directly to Business Partner information for this announcement. A PartnerWorld® ID and password are required (use IBM ID).

https://www.ibm.com/partnerworld/mem/sla.jsp?num=111-109

Publications

Publications are shipped with the announced product.

The IBM Systems Information Center provides you with a single information center where you can access product documentation for IBM systems hardware, operating systems, and server software. Through a consistent framework, you can efficiently find information and personalize your access. The IBM Systems Information Center is at

http://publib14.boulder.ibm.com/infocenter/systems

IBM Publications Center Portal

http://www.ibm.com/shop/publications/order

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided, as well as payment options via credit card. A large number of publications are available online in various file formats, which can currently be downloaded free of charge.

Displayable softcopy publications: None

Source file publications: None

Services

Global Technology Services

IBM services include business consulting, outsourcing, hosting services, applications, and other technology management.

These services help you learn about, plan, install, manage, or optimize your IT infrastructure to be an on-demand business. They can help you integrate your high-speed networks, storage systems, application servers, wireless protocols, and an array of platforms, middleware, and communications software for IBM and many non-IBM offerings. IBM is your one-stop shop for IT support needs.

For details on available services, contact your IBM representative or visit

http://www.ibm.com/services/

For details on available IBM Business Continuity and Recovery Services, contact your IBM representative or visit

http://www.ibm.com/services/continuity

For details on education offerings related to specific products, visit

http://www.ibm.com/services/learning/index.html

Select your country, and then select the product as the category.

System x and BladeCenter support services

Recommended core technical support

When you buy IBM System x technology, include the support services you need -- to help keep both your hardware and software working for you, day after day, at peak performance. It's your first step toward helping to protect your investment and sustain high levels of system availability. We offer service-level and response-time options to fit your business needs. And we'll help you get started with a core support package that includes:

- **Continuous system monitoring**

  Electronic monitoring that helps speed up problem-solving with automated, early detection of potential problems and system errors.

- **Hardware maintenance**

  World-class remote and on-site hardware problem determination and repair services.

- **Software technical support**

  Access to help line calls for fast, accurate answers to your questions during installation and throughout ongoing operations.

For more information, visit

http://www.ibm.com/servers/eserver/xseries/services.html

Technical information

Specified operating environment

Physical specifications

IBM Half High LTO Generation 5 SAS Tape Drive (49Y9898)

- Approximate height: 58 mm (2.3 in)
- Approximate width: 213 mm (8.4 in)
- Approximate depth: 332 mm (13.1 in)
- Approximate weight: 4.3 kg (9.4 lb)

Shipping dimensions

- Approximate height: 89 mm (7.51 in)
- Approximate width: 234 mm (3.54 in)
- Approximate depth: 358 mm (1.50 in)
- Approximate weight: 4.9 kg (10.1 lb)

Electrical specifications

- 100 to 240 (nominal) V ac; 50 Hz to 60 Hz; single phase
- Line current 100 V ac, .48A; 240 V ac .20 A

Agency approvals

- FCC Class A
- IEC 950
- TUV
- VDE
- UL
- cUL or CSA
- NOM
- GOST

Standards

None

Operating environment

- Temperature:
  - - 10° C to 40° C (50° F to 104° F) at 0 to 914 m (0 to 3,000 ft)
  - - 10° C to 40° C (50° F to 104° F) at 3048 m (10,000 ft)
- Relative humidity: 20% to 80% (noncondensing)
- Maximum altitude: 12,192 m (40,000 ft)

Hardware requirements

The tape drives must be installed in a selected System x server system.

Software requirements

The IBM Half High LTO Generation 5 SAS Tape Drive supports most major operating systems.

Compatibility

For latest compatibility information, visit

http://www.ibm.com/servers/eserver/serverproven/compat/us/

Note: Some configurations may not be compatible.

Limitations

None

User group requirements

This announcement satisfies or partially satisfies the requirements from one or more of the worldwide user group communities. Groups include COMMON, COMMON Europe, Guide Share Europe (GSE), InterAction (Australia/New Zealand), Japan Guide Share (JGS), and SHARE Inc.

Planning information

Customer responsibilities

The IBM Half High LTO Generation 5 SAS Tape Drive product is designated as customer setup. Customer installation instructions are shipped with each option part.

Cable orders

None

Installability

The IBM Half High LTO Gen 5 Tape Drive requires about 20 minutes for installation.

Installation includes unpacking, setting up, and powering on.

Packaging

HH LTO Gen 5 SAS Tape Drive for IBM System x and BladeCenter

Product	Package description	Boxes
Half High LTO Gen 5 SAS Tape Drive	Option Unit Box	1

Contents:

LTO tape drive
Quick install guide
CD with pub
Important Notices Flyer

The Half High LTO Gen 5 Tape Drive is shipped as a single package. Other items are in zipped bags.

Retail only

Packaging dimensions/Weight

- Single box (HxDxW):
  - Approximate height: 89 mm (7.51 in)
  - Approximate width: 234 mm (3.54 in)

- Approximate depth: 358 mm (1.50 in)
- Approximate weight: 4.9 kg (10.1 lb)

Note: All measurements are approximate.

Supplies

For end users

IBM Half High LTO Generation 5 SAS Tape Drive can be purchased through dealers.

Security, auditability, and control

It is a customer's responsibility to ensure that the server is secure to prevent sensitive data from being removed.

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communications facilities.

IBM Electronic Services

IBM has transformed its delivery of hardware and software support services to help you achieve higher system availability. Electronic Services is a web-enabled solution that offers an exclusive, no-additional-charge enhancement to the service and support available for IBM servers. These services are designed to provide the opportunity for greater system availability with faster problem resolution and preemptive monitoring. Electronic Services comprises two separate, but complementary, elements: Electronic Services news page and Electronic Services Agent.

The Electronic Services news page is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. The news page enables you to gain easier access to IBM resources for assistance in resolving technical problems.

The Electronic Service Agent™ is no-additional-charge software that resides on your server. It monitors events and transmits system inventory information to IBM on a periodic, client-defined timetable. The Electronic Service Agent automatically reports hardware problems to IBM. Early knowledge about potential problems enables IBM to deliver proactive service that may result in higher system availability and performance. In addition, information collected through the Service Agent is made available to IBM service support representatives when they help answer your questions or diagnose problems. Installation and use of IBM Electronic Service Agent for problem reporting enables IBM to provide better support and service for your IBM server.

To learn how Electronic Services can work for you, visit

http://www.ibm.com/support/electronic

Terms and conditions

IBM Global Financing

Yes

To obtain copies of the IBM Statement of Limited Warranty, contact your reseller or IBM.

In the United States, call 800-IBM-SERV (426-7378), or write to:

Warranty Information

P.O. Box 12195
Research Triangle Park, NC 27709
Attn: Dept JDJA/B203

Warranty period

- Three years parts only on 3628L5X and 3628N5X.
- One-year parts only[2] on tape drive options.

Three year MT 3628L5X and 3628N5X external drive.

- Warranty period 3 yr.
- Service type (IOR/IOE/CCE/CCR) CRU
- Maintenance agreement No
- Optional upgrade No

One year parts only internal tape drive (49Y9899)

- Warranty period 1 yr.
- Service type (IOR/IOE/CCE/CCR) CRU
- Maintenance agreement No
- Optional upgrade No

An IBM part or feature installed during the initial installation of an IBM machine is subject to a full warranty effective on the date of installation of the machine. An IBM part or feature which replaces a previously installed part or feature assumes the remainder of the warranty period for the replaced part or feature. An IBM part or feature added to a machine without replacing a previously installed part or feature is subject to a full warranty effective on its date of installation. Unless specified otherwise, the warranty period, type of warranty service, and service level of a part or feature is the same as the machine it is installed.

The following have been designated as consumables or supply items and are, therefore, not covered by this warranty:

- None

[2] For information on the IBM Statement of Limited Warranty, visit

http://www-947.ibm.com/support/entry/portal/wlup

Alternatively, this information is available through your IBM representative or reseller. Copies are available upon request. With respect to on-site service, IBM sends a technician after attempting to diagnose and resolve the problem remotely.

Warranty service

If required, IBM provides repair or exchange service, depending on the type of warranty service specified below for the machine. IBM will attempt to resolve your problem over the telephone or electronically by access to an IBM website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines On-site Service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts. Service levels are response-time objectives and are not guaranteed. The specified level of warranty service may not be available in all worldwide locations. Additional charges may apply outside IBM's normal service area. Contact your local IBM representative or your reseller for country- and location-specific information.

The type of service is Customer Replaceable Unit (for example, keyboard, mouse, speaker, memory, or hard disk drive) Service and On-site Service.

Customer Replaceable Unit (CRU) Service

IBM provides a replacement CRU to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM at any time on your request. A CRU is designated as being either a Tier 1 (mandatory) or a Tier 2 (optional) CRU. Installation of Tier 1 CRUs, as specified in this announcement, is your responsibility. If IBM installs a Tier 1 CRU at your request, you will be charged for the installation. You may install a Tier 2 CRU yourself or request IBM to install it, at no additional charge, under the type of warranty service specified below, On-site Service.

Based upon availability, a CRU will be shipped for next business day (NBD) delivery. IBM specifies in the materials shipped with a replacement CRU whether a defective CRU must be returned to IBM. When return is required, return instructions and a container are shipped with the replacement CRU, and you may be charged for the replacement CRU if IBM does not receive the defective CRU within 15 days of your receipt of the replacement.

The following parts have been designated as Tier 1 CRUs:

- HH LTO GEN 5 SAS Tape Drive
- IBM LTO 5 Media 5 Pack
- DDS Gen 5 Cleaning Cartridge Option
- LTO Cleaning Cartridge Option
- DDS Gen 6 Cleaning Cartridge Option
- IBM RDX 750GB Cartridge
- IBM RDX 1TB Cartridge

On-site Service and CRU

This provides On-site Repair, 9 hours per day, Monday through Friday excluding holidays, NBD response. IBM or your reseller will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well lit, and suitable for the purpose. On-site Service is not available in all countries, and some countries have kilometer or mileage limitations from an IBM service center. In those locations where On-site Service is not available, the normal in-country service delivery is used.

Call IBM at 1-800-IBM-SERV (426-7378) to assist with problem isolation for hardware to determine if warranty service is required. Telephone support may be subject to additional charges, even during the limited warranty period.

Calls must be received by 5:00 p.m. local time in order to qualify for NBD service.

International Warranty Service

International Warranty Service (IWS) is available in selected countries or regions.

The warranty service type and the service level provided in the servicing country may be different from that provided in the country in which the machine was purchased.

Under IWS, warranty service will be provided with the prevailing warranty service type and service level available for the IWS-eligible machine type in the servicing country, and the warranty period observed will be that of the country in which the machine was purchased.

To determine the eligibility of your machine and to view a list of countries where service is available, visit:

http://www-947.ibm.com/support/entry/portal/docdisplay?lndocid=GCOR-3FBJK2

For more information on IWS, refer to Services Announcement 601-034, dated September 25, 2001.

Licensing

Programs included with this product are licensed under the terms and conditions of the License Agreements that are shipped with the system.

Maintenance services

ServicePac , ServiceSuite , ServiceElect, and ServiceElite

ServicePac®, ServiceSuite®, ServiceElect, and ServiceElite provide hardware warranty service upgrades, maintenance, and selected support services in one agreement.

Warranty service upgrade

During the warranty period, a warranty service upgrade provides an enhanced level of On-site Service for an additional charge. A warranty service upgrade must be purchased during the warranty period and is for a fixed term (duration). It is not refundable or transferable and may not be prorated. If required, IBM will provide the warranty service upgrade enhanced level of On-site Service acquired by the customer. Service levels are response-time objectives and are not guaranteed.

IBM will attempt to resolve your problem over the telephone or electronically by access to an IBM website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines On-site Service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts.

CRUs will be provided as part of the machine's standard warranty CRU Service except that you may install a Tier 1 CRU yourself or request IBM installation, at no additional charge, under one of the On-site Service levels specified below.

IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well lit, and suitable for the purpose.

Maintenance service

If required, IBM provides repair or exchange service, depending on the type of maintenance service specified below for the machine. IBM will attempt to resolve your problem over the telephone or electronically by access to an IBM website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines On-site Service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts. Service levels are response-time objectives and are not guaranteed.

CRU Service

If your problem can be resolved with a CRU (for example, keyboard, mouse, speaker, memory, or hard disk drive), IBM will ship the CRU to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM at any time on your request.

IBM specifies in the materials shipped with a replacement CRU whether a defective CRU must be returned to IBM. When return is required, return instructions and a container are shipped with the replacement CRU, and you may be charged for the

replacement CRU if IBM does not receive the defective CRU within 15 days of your receipt of the replacement.

On-site Service

IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well lit, and suitable for the purpose.

Maintenance service (ICA)

Maintenance services are available for ICA legacy contracts.

Alternative service (warranty service upgrades)

During the warranty period, a warranty service upgrade provides an enhanced level of On-site Service for an additional charge. A warranty service upgrade must be purchased during the warranty period and is for a fixed term (duration). It is not refundable or transferable and may not be prorated. If required, IBM will provide the warranty service upgrade enhanced level of On-site Service acquired by the customer. Service levels are response-time objectives and are not guaranteed.

IBM will attempt to resolve your problem over the telephone or electronically by access to an IBM website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines On-site Service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts.

A CRU will be provided as part of the machine's standard warranty CRU Service except that you may install a Tier 1 CRU yourself or request IBM to install it, at no additional charge, under the type of warranty service specified below, On-site Service.

IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well lit, and suitable for the purpose.

Maintenance service

If required, IBM provides repair or exchange service, depending on the type of maintenance service specified below for the machine. IBM will attempt to resolve your problem over the telephone or electronically by access to an IBM website. Certain machines contain remote support capabilities for direct problem reporting, remote problem determination, and resolution with IBM. You must follow the problem determination and resolution procedures that IBM specifies. Following problem determination, if IBM determines On-site Service is required, scheduling of service will depend upon the time of your call, machine technology and redundancy, and availability of parts. Service levels are response-time objectives and are not guaranteed.

CRU Service

If your problem can be resolved with a CRU (for example, keyboard, mouse, speaker, memory, or hard disk drive), IBM will ship the CRU to you for you to install. CRU information and replacement instructions are shipped with your machine and are available from IBM at any time on your request.

IBM specifies in the materials shipped with a replacement CRU whether a defective CRU must be returned to IBM. When return is required, return instructions and a container are shipped with the replacement CRU, and you may be charged for the replacement CRU if IBM does not receive the defective CRU within 15 days of your receipt of the replacement.

On-site Service

IBM will repair the failing machine at your location and verify its operation. You must provide a suitable working area to allow disassembly and reassembly of the IBM machine. The area must be clean, well lit, and suitable for the purpose.

Non-IBM parts support

Warranty service

IBM is now shipping machines with selected non-IBM parts that contain an IBM field replaceable unit (FRU) part number label. These parts are to be serviced during the IBM machine warranty period. IBM is covering the service on these selected non-IBM parts as an accommodation to its customers, and normal warranty service procedures for the IBM machine apply.

Warranty service upgrades and maintenance services

Under certain conditions, IBM Integrated Technology Services repairs selected non-IBM parts at no additional charge for machines that are covered under warranty service upgrades or maintenance services.

IBM Service provides hardware problem determination on non-IBM parts (for example, adapter cards, PCMCIA cards, disk drives, or memory) installed within IBM machines covered under warranty service upgrades or maintenance services and provides the labor to replace the failing parts at no additional charge.

If IBM has a Technical Service Agreement with the manufacturer of the failing part, or if the failing part is an accommodations part (a part with an IBM FRU label), IBM may also source and replace the failing part at no additional charge. For all other non-IBM parts, customers are responsible for sourcing the parts. Installation labor is provided at no additional charge, if the machine is covered under a warranty service upgrade or a maintenance service.

IBM hourly service rate classification

One

Field-installable features

Yes

Model conversions

No

Machine installation

Customer setup. Customers are responsible for installation according to the instructions IBM provides with the machine.

Graduated program license charges apply

No

Licensed internal code and licensed machine code

This product does not contain Licensed Internal Code or Licensed Machine Code.

Educational allowance

None

Customer setup

Yes

Machine code

No license terms apply.

The following parts are designated as Tier 1 FRUs:

FRUs - Internal tape drive (49Y9898)

- Drive = 46C2005
- SAS cable = 49Y9901
- Screw Pack = 42C3934

FRUs - External tape drive (3628L5X and 3628N5X)

- Drive = 49Y9907
- External SAS cable = 39R6532
- Line Cord = 39M5081

Prices

For current prices, contact IBM at 888-Shop-IBM (746-7426) or visit

http://www-03.ibm.com/systems/x/

Description	Part number
IBM Half High LTO Generation 5 SAS Tape Drive	49Y9898
IBM External Half High LTO Generation 5 SAS Drive	3628L5X
IBM LTO 5 Media 5 Pack	49Y9899
DDS Gen 5 Cleaning Cartridge Option	49Y9892
LTO Cleaning Cartridge Option	49Y9893
DDS Gen 6 Cleaning Cartridge Option	49Y9894
IBM RDX 750GB Cartridge	81Y3645
IBM RDX 1TB Cartridge	81Y3647

Field install only	Plant install only	MES removal	Cables required
N	N	N	N

The following are newly announced features on the specified models of the IBM xSeries® 3628 machine type.

Description	Model Number	Feature Number	Initial/ MES/ Both/ Support
IBM Half High LTO External SAS Tape Drive, EMEA Long Leadtime Configurations	HC1		
Hungary CHW plant 9SH	HC1	1763	Initial
	HC1	1764	Initial

Guad CHW plant 9KQ			
	HC1	1765	Initial
ISTC CHW 9K2			
	HC1	1766	Initial
RTP CHW 9NR			
	HC1	1767	Initial
Capacity Scheduling Service			
	HC1	1772	Initial
Custom SLA Scheduling Service			
	HC1	1796	Initial
Customer Solution Center Services			
	HC1	7831	Initial
Consolidate Shipment			
	HC1	8031	Initial
TAA Compliant Order			
	HC1	8067	Initial
General Racking Solution			
	HC1	8072	Initial
System x Cluster Upgrade			
	HC1	A103	Initial
IBM Half High LTO Gen 4 External SAS Tape Drive			
	HC1	A1XD	Initial
IBM Half High LTO Gen 3 External SAS Tape Drive			
	HC1	A1XE	Initial
IBM Half High LTO Gen 5 External SAS Tape Drive			
	HC1	A1XF	Initial

The following are features already announced for the 7327 machine type.

Description	Model Number	Feature Number	Initial/ MES/ Both/ Support
IBM Half High LTO Gen 5 Internal SAS Tape Drive			
	AC1	5345	Initial
	MC1		Initial
IBM LTO Universal Cleaning Cartridge			
	AC1	5347	Initial
	MC1		Initial
IBM DDS Generation 5 Cleaning Cartridge			
	AC1	5348	Initial
	MC1		Initial
IBM DDS Generation 6 Cleaning Cartridge			
	AC1	5349	Initial
	MC1		Initial
IBM LTO Gen 5 Data Cartridge			
	AC1	5728	Initial
	MC1		Initial

The following are features already announced for the 7328 machine type.

Description	Model Number	Feature Number	Initial/ MES/ Both/ Support
IBM Half High LTO Gen 5 Internal SAS Tape Drive			
	AC1	5345	Initial
	MC1		Initial
IBM LTO Universal Cleaning Cartridge			
	AC1	5347	Initial
	MC1		Initial
IBM DDS Generation 5 Cleaning Cartridge			
	AC1	5348	Initial
	MC1		Initial
IBM DDS Generation 6 Cleaning Cartridge			
	AC1	5349	Initial
	MC1		Initial
IBM LTO Gen 5 Data Cartridge			
	AC1	5728	Initial

	MC1		Initial

The following are features already announced for the 7378 machine type.

Description	Model Number	Feature Number	Initial/ MES/ Both/ Support
IBM Half High LTO Gen 5 Internal SAS Tape Drive			
	AC1	5345	Initial
	MC1		Initial
IBM LTO Universal Cleaning Cartridge			
	AC1	5347	Initial
	MC1		Initial
IBM DDS Generation 5 Cleaning Cartridge			
	AC1	5348	Initial
	MC1		Initial
IBM DDS Generation 6 Cleaning Cartridge			
	AC1	5349	Initial
	MC1		Initial
IBM LTO Gen 5 Data Cartridge			
	AC1	5728	Initial
	MC1		Initial

The following are features already announced for the 7379 machine type.

Description	Model Number	Feature Number	Initial/ MES/ Both/ Support
IBM Half High LTO Gen 5 Internal SAS Tape Drive			
	AC1	5345	Initial
	MC1		Initial
IBM LTO Universal Cleaning Cartridge			
	AC1	5347	Initial
	MC1		Initial
IBM DDS Generation 5 Cleaning Cartridge			
	AC1	5348	Initial
	MC1		Initial
IBM DDS Generation 6 Cleaning Cartridge			
	AC1	5349	Initial
	MC1		Initial
IBM LTO Gen 5 Data Cartridge			
	AC1	5728	Initial
	MC1		Initial

The following are features already announced for the 7380 machine type.

Description	Model Number	Feature Number	Initial/ MES/ Both/ Support
IBM Half High LTO Gen 5 Internal SAS Tape Drive			
	AC1	5345	Initial
	MC1		Initial
IBM LTO Universal Cleaning Cartridge			
	AC1	5347	Initial
	MC1		Initial
IBM DDS Generation 5 Cleaning Cartridge			
	AC1	5348	Initial
	MC1		Initial
IBM DDS Generation 6 Cleaning Cartridge			
	AC1	5349	Initial
	MC1		Initial
IBM LTO Gen 5 Data Cartridge			
	AC1	5728	Initial
	MC1		Initial

The following are features already announced for the 8765 machine type.

Description	Model Number	Feature Number	Initial/ MES/ Both/ Support
HC1			
	HC1		
IBM Half High LTO Gen 5 Internal SAS Tape Drive			
	HC1	5345	Initial
IBM LTO Universal Cleaning Cartridge			
	HC1	5347	Initial
IBM DDS Generation 5 Cleaning Cartridge			
	HC1	5348	Initial
IBM DDS Generation 6 Cleaning Cartridge			
	HC1	5349	Initial
IBM LTO Gen 5 Data Cartridge			
	HC1	5728	Initial

The following are features already announced for the 8767 machine type.

Description	Model Number	Feature Number	Initial/ MES/ Both/ Support
HC1			
	HC1		
IBM Half High LTO Gen 5 Internal SAS Tape Drive			
	HC1	5345	Initial
IBM LTO Universal Cleaning Cartridge			
	HC1	5347	Initial
IBM DDS Generation 5 Cleaning Cartridge			
	HC1	5348	Initial
IBM DDS Generation 6 Cleaning Cartridge			
	HC1	5349	Initial
IBM LTO Gen 5 Data Cartridge			
	HC1	5728	Initial

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